

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/EP 03/08308

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K14/535 C12N15/27 C12N15/10 C12N15/67 C12N15/72

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, MEDLINE, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DEVLIN P E ET AL: "ALTERATION OF AMINO-TERMINAL CODONS OF HUMAN GRANULOCYTE-COLONY-STIMULATING FACTOR INCREASES EXPRESSION LEVELS AND ALLOWS EFFICIENT PROCESSING BY METHIONINE AMINOPEPTIDASE IN ESCHERICHIA COLI" GENE, ELSEVIER BIOMEDICAL PRESS. AMSTERDAM, NL, vol. 65, no. 1, 1988, pages 13-22, XP001024074 ISSN: 0378-1119 cited in the application	2-24
Y	see in particular, Fig. 1, page 17, right-hand column, page 18.	1
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
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- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

27 November 2003

Date of mailing of the international search report

30/12/2003

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 840 543 A (KARA BHUPHENDRA VALLABH ET AL) 24 November 1998 (1998-11-24) cited in the application see in particular the figures and results ---	2-24
X	JEONG KI JUN ET AL: "Secretory production of human granulocyte colony-stimulating factor in Escherichia coli" PROTEIN EXPRESSION AND PURIFICATION, vol. 23, no. 2, November 2001 (2001-11), pages 311-318, XP002263043 ISSN: 1046-5928 cited in the application see in particular, page 314, page 315, right-hand column ---	2-24
Y	KANE J F: "EFFECTS OF RARE CODON CLUSTERS ON HIGH-LEVEL EXPRESSION OF HETEROLOGOUS PROTEINS IN ESCHERICHIA COLI" CURRENT OPINION IN BIOTECHNOLOGY, LONDON, GB, vol. 6, no. 5, October 1995 (1995-10), pages 494-500, XP002926790 ISSN: 0958-1669 cited in the application the whole document ---	1
A	MAKRIDES S C: "Strategies for achieving high-level expression of genes in Escherichia coli" MICROBIOL. REV. , vol. 60, no. 3, 1 September 1996 (1996-09-01), pages 512-538, XP002095235 -----	

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Information on patent family members

International Application No

PCT/EP 03/08308

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5840543 A	24-11-1998	GB 2241505 A , B	04-09-1991